BSC 3402L - Experimental Biology
Spring 2009

Instructor:	T. E. Miller	Telephone:	644-9823 (or miller@bio.fsu.edu)
Office:	4022 King	Office Hours:	by appointment

Course Goals:

This course gives students first-hand experience in conducting independent biological research. We will give you guidance on how science should be conducted: from the planning, through the execution, to the presentation. Then you must design, carry-out, and present an independent research project.

This semester, the research system is Foraging Ecology. This is a very broad topic and your research can be conducted on a wide range of topics and in a variety of locations. The only requirement is that the research be on some aspect of foraging ecology. Please note that the research system itself is not the focus of the course: rather we want to expose you to the complete picture of how research is conducted. We expect that at least as much time will be spent on literature review, analysis, and writing as is spent on the actual research.

On the back you will find a schedule for this course – we reserve the right to change this schedule as necessary. There were no labs in the first week. After this week, you must go to your assigned lab for approximately 2 hours per week. **Labs meet in KING 2060**. You may not attend a lab other than your assigned section without the permission of the instructors.

Grading:

Your grade will be determined by four lab assignments (10 pts each), 5 discretionary points awarded by your lab TA, a single test (25 pts), an oral presentation (20 pts) and three written assignments (proposal 20 pts, draft report 50 pts, final report 50 pts) summing to a total of 210 points. Dates for these assignments can be found on the reverse side of this sheet; your TA will give you more information about due dates for assignments. Final grades will be curved if necessary. Students with 90% of the points or more are assured an A, 80% or more , B, 70% or more, C, etc.

Grades for assignments turned in late will be marked down by 10% (one letter grade) for each day past the due date. All questions about grading should first be addressed to your Teaching Assistant. If you are still unsatisfied, feel free to come to Dr. Miller about grading (or any other aspect of the course).

We will strictly apply the student honor code as given in Student Handbook. This means that any type of plagiarism will result in a failing grade for this course. Plagiarism includes any representation of the work of others as your own. If you must quote, then use quotation marks and attribute the quote correctly: in general, there should be no reason for the use of quotations.

Text:

A required booklet is available at Target Copy. Some other reading materials for this course will be available online, primarily as PDF files, at: http://bio.fsu.edu/~miller/BSC3402L/ For guidance on scientific writing and presentations, I do recommend Writing Papers in the Biological Sciences by Victoria McMillan.

Teaching Assistants:

The TAs are responsible for presenting the lab material, giving you advice throughout the course, and for grading your assignments and papers. Please feel welcome to make an appointment and talk to your TA whenever you need to. Your TA will give you further information on his or her availability and requirements for this course.

TA	Office	Telephone	Section
Amanda Buchanan	King 4004	644-6214	2 & 8 – W 1:25 to 3:20
Elise Gornish	King 4023	645-8575	1 -- W 10:10 to 12:05
David McNutt	King 4004	644-6214	4 -- Th 2:00 to 3:55
Ben Nomann	King 4023	645-8575	5 – F 10:10 to 12:05
Sarah Tso	King 4023	645-8575	3 – Th 9:30 to 11:25

Schedule for BSC 3402L - Spring 2009

Week	Lecture	Lab
1 January 6	Overview Course goals, Research, and Scientific Method	NO LABS
2 January 13	Foraging Ecology - the concepts of costs and benefits in optimal foraging	-- Optimal foraging -- Computer foraging exercise -- Bee Lab Report
3 January 20	Optimal Foraging, Hypothesis Testing, and Experimental Design	-- Scientific Literature -- Searching the Literature -- Primary Literature Report
4 January 27	Statistics and Exp. Design I -- Data , Descriptive statistics, -- Differences between means	-- Optimal use of resource patches -- Scientific Write up of Foraging Exp.
5 February 3	Statistics and Exp.Design II -- Chi-square -- Measures of association	-- Excursion to local field sites -- small group projects -- Field Experiment Write up
6 February 10	More Stats & Scientific Writing Proposals, Paper, Scientific Literature, Plagiarism, prepare for exam	-- Data analysis
7 February 17	EXAM	NO LAB -- **Proposals Due**
8 February 24		– begin independent work on projects **-- Proposals must be accepted by this lab**
9 March 3		TA's available for consultation
 March 10	Spring Break	NO LAB – Spring Break
10 March 17		Progress reports in labs
11 March 24		TA's available for consultation
12 March 31		TA's available for consultation
13 April 7		**1st version of paper due** TAs present info on talks
14 April 14		**Student oral presentations**
15 Apr. 21		**Final Project due this week**
16 Apr. 27	Final Exam Week	class finished, no further student obligation to this course